



FAA Partnership Conference Fort Worth TX March 2005

Session C Airport Engineering Airport Pavement Management Practices

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Objectives of Presentation

- ✈ Provide Federal Aviation Administration (FAA) References
 - ✈ FAA Advisory Circulars (ACs)
 - ✈ FAA Orders
- ✈ Overview of FAA Headquarters and FAA Region Roles
- ✈ Foster Dialog / Interaction
 - ✈ Is FAA Guidance Clear?, Available?
 - ✈ What Can We Do To Help You?



FAA Guidance (on the web)

<http://www.faa.gov/arp>

Address  <http://www.faa.gov/arp/>

The Federal Aviation Administration

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National Links

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Airports Resources

Part 139 Certification

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Frequently Requested Links

Organization Chart

Airport Improvement Program (AIP)

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Airports

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Map of Regions



NEWS & ANNOUNCEMENTS

- [Draft Order 5050.4B, National Environmental Policy Act \(NEPA\) Implementing Instructions for Airport Projects](#)
- [Updates to Airport Certification Status Table](#)
- [Capacity Needs in the National Airspace System](#)
- [New Federal Airport Certification Requirements \(Part 139\)](#)
- [Airport Financial Reporting Program Website](#)
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Topic Index:

<p>Certification (Part 139)</p> <ul style="list-style-type: none">▪ Certification of Airports▪ Revised Part 139▪ Airport Data & Contact Information <p>Design, Engineering, & Construction</p> <ul style="list-style-type: none">▪ Aircraft Characteristics Database▪ Design Standards▪ Engineering Briefs▪ Engineering Software	<p>Compliance Program</p> <ul style="list-style-type: none">▪ Airport Financial Reports▪ Exclusive Rights & Minimum Standards <p>Environmental Issues</p> <ul style="list-style-type: none">▪ Air Quality▪ Land Use▪ Noise▪ Records of Decision
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Find:

- [Advisory Circulars](#)
- [Other Publications](#)
- [Forms](#)
- [Resources](#)
- [Helpful Links](#)
- [Airport Codes/Location IDs](#)



FAA AC Guidance

- ✈ AC 150/5380-6A, Guidelines and Procedures for Maintenance of Airport Pavements (7/14/03)
- ✈ AC 150/5380-7, Pavement Management Systems (9/28/88)
- ✈ AC 150/5380-8, Handbook for the Identification of Alkali-Silica Reactivity in Airfield Pavements (2/4/04)
- ✈ AC 150/5320-17, Airfield Pavement Surface Evaluation and Rating Manuals--ADVANCE COPY (7/12/04). (PASER)



FAA AC Guidance (on the web)

<http://www.faa.gov/arp>

[150/5380-6A](#) Guidelines and Procedures for Maintenance of Airport Pavements (7-14-03). ([AAS-100](#)). Provides guidelines and procedures for maintenance of rigid and flexible airport pavements. ([Word version](#))

[150/5380-7](#) Pavement Management System (9-28-88). ([AAS-100](#)). Presents the concepts of a Pavement Management System, discusses the essential components of such a system, and outlines how it can be used in making cost-effective decisions regarding pavement maintenance and rehabilitation.

[150/5380-8](#) Handbook for Identification of Alkali-Silica Reactivity in Airfield Pavements (2/4/04). ([AAS-100](#)). Provides guidance on understanding, identifying, preventing, and mitigating alkali-silica reactivity (ASR) in fresh and hardened Portland cement concrete airfield pavements.

[150/5320-17](#) Airfield Pavement Surface Evaluation and Rating Manuals--*ADVANCE COPY* (7/12/04). ([AAS-100](#)). Provides guidance on understanding and rating the surface condition of flexible and rigid airfield pavements and provides a simple system to visually rate pavement condition.

This AC is very large and can also be accessed in sections:

AC 150/5320-17 [[Word Version](#) | [Rich Text Format Version](#) | [PDF Version](#)]

[Appendix 1: Asphalt Airfield Pavements](#)

[Appendix 2: Concrete Airfield Pavements](#)



FAA Order Guidance (on the web)

✈ FAA Order 5100.38B Airport Improvement Program Handbook (1/8/04)

➔ Appendix 7 Special Grant Conditions

What is the AIP Handbook?

AIP Handbook, Change 1- January 8, 2004 (FAA Order 5100.38B)

If you wish to print out a hardcopy for reference, we recommend you print the PDF version. The Order is available as PDF and the Appendices are in both HTML and PDF.

(FAA Employees may download other versions on the [FAA ARP Intranet Site](#))

PDF

[Order and Appendices](#) (9.6 MB) (352 pages) *(Ideal for Printing)*

[Order and Appendices with Instructions for Navigation](#) (8.8 MB) (352 pages) *(Ideal for Reviewing on Screen)*



FAA Guidance from Order

Section 3. MANAGEMENT OF AIRFIELD PAVING PROJECTS

520. GENERAL.

a. **Airfield Paving.** Eligible work items under airfield paving include construction, reconstruction, or rehabilitation of runways, taxiways, and apron areas. This may include aggregate-turf pavement or other than the FAA standard for specifying construction at airports, as with the FAA-approved State standards. Specific programming criteria on the individual work items are provided in the subsequent paragraphs. Under Title 49 U.S.C., Section 47105e, the sponsor must assure the airport has implemented procedures for a pavement maintenance management program for any project to replace or reconstruct pavement. A special condition for pavement quality control is contained in Appendix 7. The basic requirements for the pavement maintenance management program are defined in Advisory Circular 150/5380-6.



Public Law

✦ CFR Title 49 Section 47105(e) PREVENTIVE MAINTENANCE After January 1, 1995, the Secretary may approve an application under this subchapter for the replacement or reconstruction of pavement at an airport only if the sponsor has provided such assurances or certifications as the Secretary may determine appropriate that such airport has implemented an effective airport pavement maintenance-management program. **The Secretary may require such reports on pavement condition and pavement management programs as the Secretary determines may be useful.**



FAA Guidance as Result of Law

✈ An effective pavement maintenance management program is one that details the procedures to be followed to assure that proper pavement maintenance, both preventive and repair, is performed. An airport sponsor may use any form of inspection program it deems appropriate. The program must include:

- ✈ 1. Pavement Inventory.
- ✈ 2. Inspection Schedule.
 - a. Detailed Inspection.
 - b. Drive-by Inspection.
- ✈ 3. Record Keeping.
- ✈ 4. Information Retrieval.



FAA Guidance as Result of Law

- ✈ Pavement Inventory. The following must be depicted in an appropriate form and level of detail:
 - ✈ Location of all runways, taxiways, and aprons
 - ✈ Dimensions
 - ✈ Type of pavement
 - ✈ Year of construction or most recent major rehabilitation.
- ✈ For compliance with the AIP assurances, pavements that have been constructed, reconstructed, or repaired with Federal financial assistance shall be so depicted.



FAA Guidance as Result of Law

✈ Inspection Schedule.

- ➔ a. Detailed Inspection. A detailed inspection must be performed at least once a year. If a history of recorded pavement deterioration is available, i.e. Pavement Condition Index (PCI) survey as set forth in Advisory Circular 150/5380-6, Guidelines and Procedures for Maintenance of Airport Pavements, the frequency of inspections may be extended to three years. (ref. ASTM D 5340)
- ➔ b. Drive-by Inspection. A drive-by inspection must be performed a minimum of once per month to detect unexpected changes in the pavement condition.



FAA Guidance as Result of Law

✈ Record Keeping. Complete information on the findings of all detailed inspections and on the maintenance performed must be recorded and kept on file for a minimum of five years. The types of distress, their locations, and remedial action, scheduled or performed, must be documented. The minimum information to be recorded is listed below.

- ✈ a. inspection date
- ✈ b. Location
- ✈ c. distress types
- ✈ d. maintenance scheduled or performed

✈ For drive-by inspections, the date of inspection and any maintenance performed must be recorded.



FAA Guidance as Result of Law

- ✈ Information Retrieval. An airport sponsor may use any form of record keeping it deems appropriate, so long as the information and records produced by the pavement survey can be retrieved to provide a report to the FAA as may be required.
- ✈ Reference. Refer to Advisory Circular 150/5380-6A, Guidelines and Procedures for Maintenance of Airport Pavements, for specific guidelines and procedures for maintaining airport pavements and establishing an effective maintenance program. Specific types of distress, their probable causes, inspection guidelines, and recommended methods of repair are presented.



Industry Reference

- ✈ AC 150/5380-6A, Guidelines and Procedures for Maintenance of Airport Pavements (7/14/03)
 - ✈ ASTM 5340 (PCI Surveys for Airfield Pavements)
 - ✈ MicroPaver



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Industry Reference

✈ ASTM 5340 (PCI Surveys for Airfield Pavements)

1.1 This test method covers the determination of airport pavement condition through visual surveys of asphalt-surfaced pavements, including porous friction courses, and plain or reinforced jointed portland cement concrete pavements, using the Pavement Condition Index (PCI) method of quantifying pavement condition.

1.2 The PCI for airport pavements was developed by the US Army Corps of Engineers through the funding provided by the US Air Force **(1, 2, 3)**. It is further verified and adopted by FAA **(4)**, and the U.S. Naval Facilities Engineering Command **(5)**.



Recent FAA Guidance

✈ AC 150/5380-8, Handbook for the Identification of Alkali-Silica Reactivity in Airfield Pavements (2/4/04)

The FAA recommends the information and procedures contained in the handbook for use during the engineering and design phase of paving projects. The handbook is included in this AC as Appendix 1.



Recent FAA Guidance

✈ AC 150/5320-17, Airfield PASER Manuals

- ✈ Can be used to satisfy a portion of the annual detailed inspection requirements.
- ✈ Simplified method of visually assessing pavements.
- ✈ Five Ratings
 - Excellent (5), Good (4), Fair (3), Poor (2), Failed(1)
- ✈ AC has Sections for Flexible and Rigid Pavements
- ✈ Does NOT substitute for ASTM D 5340 PCI Survey



Frequently Asked Questions

- ✈ Is PAVER Required? Is PCI (ASTM D 5340) required?
- ✈ Is a Pavement Maintenance Management Program Eligible for AIP Funds? Is each PCI Survey Eligible for AIP funds?
- ✈ Is there a Standard FAA Form for Reports?
- ✈ CONTACT YOUR FRIENDLY FAA AIRPORTS OFFICE



FAA Role

✈ Headquarters Offices

- ✈ Issue Guidance
- ✈ Request Reports from Regions
- ✈ Develop Strategy to Maintain 93% of Runways in Good or Fair Condition

✈ Region Offices

- ✈ Administer Guidance
- ✈ Request Reports from Sponsors



Questions

- ✈ Is FAA Guidance Clear?, Available?
- ✈ What Can We Do To Help You?
- ✈ What Methods Do You Use?

